Amendments to the Specification

Replace the paragraph beginning at page 1, line 2, with the following amended paragraph:

The present application is a continuation application of and claims priority to U.S. Patent Application Serial Number 10/387,663, filed March 10, 2003 (Attorney Docket No. DP-300006div), which is a divisional application of and claims priority to U.S. Patent 6,609,582 ~~Application Serial Number. 09/294,679 (Attorney Docket No. DP-300006),~~ of Jean Joseph Botti, et al., filed April 19, 1999, entitled "Power Generation System and Method," both of which are hereby incorporated by reference herein in ~~there~~ their entireties.

Replace the paragraph beginning at page 1, line 26 and carrying over to page 2, with the following amended paragraph:

Alternative fuels cover a wide spectrum of potential environmental benefits, ranging from incremental toxic and CO2 emission improvements (reformulated gasoline, alcohols, LPG, etc.) and to significant toxic and CO2 emission improvements (natural gas, ~~DME~~ dimethyl ether, etc.). Hydrogen is clearly the ultimate environmental fuel, with potential as a nearly emission free internal combustion engine fuel (including CO2 if it comes from a non-fossil source). Unfortunately, the market-based economics of alternative fuels or new power train systems are uncertain in the short to mid-term.

Replace the paragraph beginning at page 2, line 24, with the following amended paragraph:

The present system and method relate to an engine configured and operated to produce a hydrogen rich engine exhaust and to oxygen enrichment devices to further optimize production of hydrogen rich engine exhaust. The present hydrogen rich exhaust

engines include a free piston gas generator with rich homogenous charge compression ignition, an oxygen generator and rich internal combustion engine cylinder system, and a rich inlet turbo-generator system with exhaust heat recovery. Oxygen enrichment devices include pressure swing absorption (PSA) with oxygen selective materials, oxygen separators such as a solid oxide fuel cell (SOFC) ~~an SOFC~~ oxygen separator and an oxygen separator utilizing a ceramic membrane and differential pressure to drive oxygen across the membrane.

Replace the paragraph beginning at page 3, line 15, with the following amended paragraph:

The method comprises supplying at least a first portion of fuel and a first portion of air to an engine and supplying an SOFC with a second portion of air and fuel in the form of rich engine exhaust, wherein said engine is configured to produce a rich engine exhaust; reacting said first portion of fuel and said first portion of air in said engine to produce a hydrogen rich engine exhaust; introducing said hydrogen rich engine exhaust to a fuel intake of a SOFC; introducing ~~a~~ the second portion of air to an air intake of said SOFC; and ionizing oxygen in the second portion of air such that the ionized oxygen migrates to the fuel side of the SOFC where it reacts with said hydrogen rich engine exhaust to produce a SOFC effluent. The resulting system exhaust has negligible to zero amounts of nitric oxides, hydrocarbons, carbon monoxide, and particulates, due to some reduction within SOFC, recirculation of SOFC effluent through the system and/or passage of SOFC effluent through a catalytic converter.

Replace the paragraph beginning at page 4, line 5, with the following amended paragraph:

Figure 1 is a schematic depiction of an embodiment of a hybrid electric power

train system of the present invention utilizing a solid oxide fuel cell (SOFC) ~~SOFC~~ on the exhaust side of an engine with the engine configured to produce hydrogen rich exhaust to feed the SOFC.

Replace the paragraph beginning at page 4, line 38 and carrying over to page 5, with the following amended paragraph:

The present system and method relate to an engine configured and operated to produce a hydrogen rich engine exhaust and to oxygen enrichment devices to further optimize production of hydrogen rich engine exhaust. The present hydrogen rich exhaust engines include, but are not limited to, a free piston gas generator with rich homogenous charge compression ignition, an oxygen generator and rich internal combustion engine cylinder system, and a rich inlet turbo-generator system with exhaust heat recovery. Oxygen enrichment devices include, but are not limited to, pressure swing absorption (PSA) with oxygen selective materials, oxygen separators such as a solid oxide fuel cell (SOFC) ~~an SOFC~~ oxygen separator and an oxygen separator utilizing a ceramic membrane and differential pressure to drive oxygen across the membrane.

Replace the paragraph beginning at page 6, line 22, with the following amended paragraph:

The present power generation system and method provides a hydrogen rich engine exhaust for feeding a SOFC provided on the exhaust side of an engine. The concept of providing a SOFC on the exhaust side of an engine is further defined in commonly assigned U.S. Patent 6,655,325, issued December 2, 2003, ~~Application Serial No. 09/241239, Attorney Docket No. H-205063,~~ which is hereby incorporated herein by reference. Commonly assigned U.S. Patent 6,230,494, issued May 15, 2001, hereby incorporated herein by reference, further defines the use of a SOFC in various hybrid

powertrain embodiments which allow the engine and SOFC to operate individually or concurrently.

Replace the paragraph beginning at page 8, line 17, with the following amended paragraph:

Upon reaching operating temperature, SOFC 40 operates the base load of electrical accessories and traction power accessories and recharges electrical source 100, while the engine 30 now functions as a rich gas generator wherein it provides limited traction power. In situations where high power is required, engine 30 can switch to stoichiometric fueling for peak power. In this situation, electrical source ~~10~~ 100 can provide additional power. The embodiment shown in Figure 1 shows motor generator 110 in an arrangement that is typical of an integrated parallel hybrid. This allows electric power to be added or removed form the shaft. The present invention contemplates utilization of other parallel or series configurations. The present invention also contemplates utilization of non-hybrid configurations.

Replace the Abstract beginning at page 24, line 2, with the following amended Abstract:

An extended rich mode engine configured and operated extremely rich of stoichiometric to produce a substantially continuous hydrogen rich engine exhaust. Oxygen enrichment devices further optimize production of hydrogen rich engine exhaust. Engines include a free piston gas generator with rich homogenous charge compression, a rich internal combustion engine cylinder system with an oxygen generator, and a rich inlet turbo-generator system with exhaust heat recovery. Oxygen enrichment devices to enhance production of hydrogen rich engine exhaust include pressure swing absorption with oxygen selective materials, and oxygen separators such as ~~an SOFC~~ a solid oxide fuel cell oxygen separator and a ceramic membrane oxygen separator.